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December 31, 2007

Mr. Thomas M. McNamara
Office of the Assistant Secretary for Transportation Policy
U. S. Department of Transportation
1200 New Jersey Ave. SE--W84-322
Washington, DC 20590

Dear Mr. McNamara:

Attached please find a proposal for congestion relief for the metropolitan Chicago area. This submittal proposes congestion pricing along one of the region's most heavily traveled tollway corridors, adjacent to O'Hare International Airport. The proposal also includes supportive public transit services, including express bus service, arterial highway improvements, and traveler information upgrades.

The metropolitan Chicago area is among the most congested regions in the country. We believe that we need to find new solutions to address our congestion problems and appreciate USDOT's commitment to demonstrating innovative solutions. We feel that this proposal, when demonstrated to be successful, has application throughout the region.

We look forward to partnering with the Department on this and other projects that improve the transportation system of northeastern Illinois.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Randall S. Blankenhorn'.

Randall S. Blankenhorn
Executive Director

On behalf of:

Brian J. McPartlin, Executive Director
Illinois State Toll Highway Authority

Milton R. Sees, Secretary
Illinois Department of Transportation

Stephen Schlickman, Executive Director
Regional Transportation Authority

T. J. Ross, Executive Director
Pace Suburban Bus

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Congestion Reduction Demonstration for Northeastern Illinois



A Proposal for Direct Highway Pricing, Transit, Technology, and Supporting Strategies

Submitted to the United States Department of Transportation
December 31, 2007

Sponsored by



Congestion Reduction Demonstration

Executive Summary

Congestion Reduction Demonstration Focused on Roadway Pricing

Congestion is a serious problem in the Chicago region. We propose a demonstration in the Northwest Corridor focused on roadway pricing and supporting strategies to reduce congestion.

Need to Address Congestion in the Chicago Region

Our region's congestion is among the worst in the nation. Monitors show that for more than 13 hours per day, more than 20% of our highway system is congested. Peak-period travel times are nearly 150% of free-flow times. Moreover, unstable traffic flow, crashes, disabled vehicles, and other problems related to congestion cause variations in travel times, requiring more time to be budgeted for trips.

Congestion's costs in our area are significant. The United States Department of Transportation estimates the annual cost of transportation system congestion in our region at \$11.0 billion, of which 87% is related to highways. This expense includes direct costs of delay, productivity losses, environmental impacts, crashes and injuries, higher freight handling costs, and extra time budgeted for travel time variation (Wells, November, 2006).

Summary of Proposed Roadway Pricing Demonstration

The demonstration proposes roadway pricing in the congested Northwest Corridor. The I-90/Jane Addams Memorial Tollway, the focus of the demonstration, is proposed to be variably priced by time of day to eliminate recurring congestion. Current congestion is mostly of a tidal-flow, peak-period nature well-suited to being addressed by roadway pricing. Proposed congestion pricing will also substantially reduce congestion on the adjoining Kennedy Expressway.

To be effective at reducing congestion in the Northwest Corridor, congestion pricing requires several supportive strategies. Implementation of these strategies will ensure that we are not simply moving congestion from toll roads to regional arterials, but addressing congestion on both systems. These supportive strategies require federal financial assistance. Implementation of congestion pricing is contingent on substantial federal assistance for supportive strategies.

Supportive strategies include substantial new point-to-point express bus service operating at free-flow highway speeds (made so by congestion pricing), arterial highway and transit service improvements, and intelligent transportation systems projects to assure efficient use of transportation resources by the traveling public.

In addition, improvements are proposed for Interstate Highway 190, the primary access road to O'Hare.

Congestion Reduction Overview: Severe Congestion Calls for Solutions

Scope and Scale of Chicago Area Traffic Congestion

Traffic congestion in the Chicago metropolitan area is severe in intensity, widespread in extent, long in duration, and persistent in frequency. Metropolitan partners have data collection and analysis programs in place to measure and manage system performance. These data help demonstrate the severity of the region's congestion, and call out for new solutions to address the problem.

An Introduction: National Data Comparisons

When compared with other metropolitan areas, the Chicago area's congestion is among the worst in the nation. The United States Department of Transportation (USDOT) regularly produces an "Urban Congestion Report" that focuses on freeway performance in urban areas nationwide. The report shows significant congestion in the Chicago region compared to 22 other congested cities. Table 1 shows results for the reporting period August to October, 2007.

Table 1
Urban Congestion Report Comparison, August - October, 2007

Measure	Chicago Region	Chicago Rank	National Composite	Explanation of Measurement
Congested Hours	13.04	Worst	6:12	Hours per day when 20% of system is congested
Travel Time Index	1.49	Worst	1.348	Ratio of peak-period travel time to free-flow travel time
Planning Time Index	2.07	Second Worst	1.755	Factor showing extra time to set aside for on-time arrivals because of travel time variation

Source: USDOT *Urban Congestion Report*, August - October, 2007, National Executive Summary, Final.

The Texas Transportation Institute's (TxTI's) frequently quoted *Urban Mobility Report* also compares regions. This report's Travel Time Index is the ratio of travel time in the peak period to travel time under free-flow conditions (60 mph on freeways and 35 mph on principal arterials). The 2005 Travel Time Index for our region was 1.47, ranking number two among U.S. cities, second only to Los Angeles-Long Beach (TxTI, *Urban Mobility Report*, 2007). The TxTI also calculates broader measures of traveler delay, e.g., the annual delay per peak-period traveler. TxTI estimates our region's annual delay per peak-hour traveler at 46 hours per year, ranking 16th nationally—better than other measures because of intense urban transit usage. Nonetheless, these data demonstrate the intensity of the Chicago area's traffic congestion problem.

Congestion Reduction Overview: Northwest Corridor Congestion

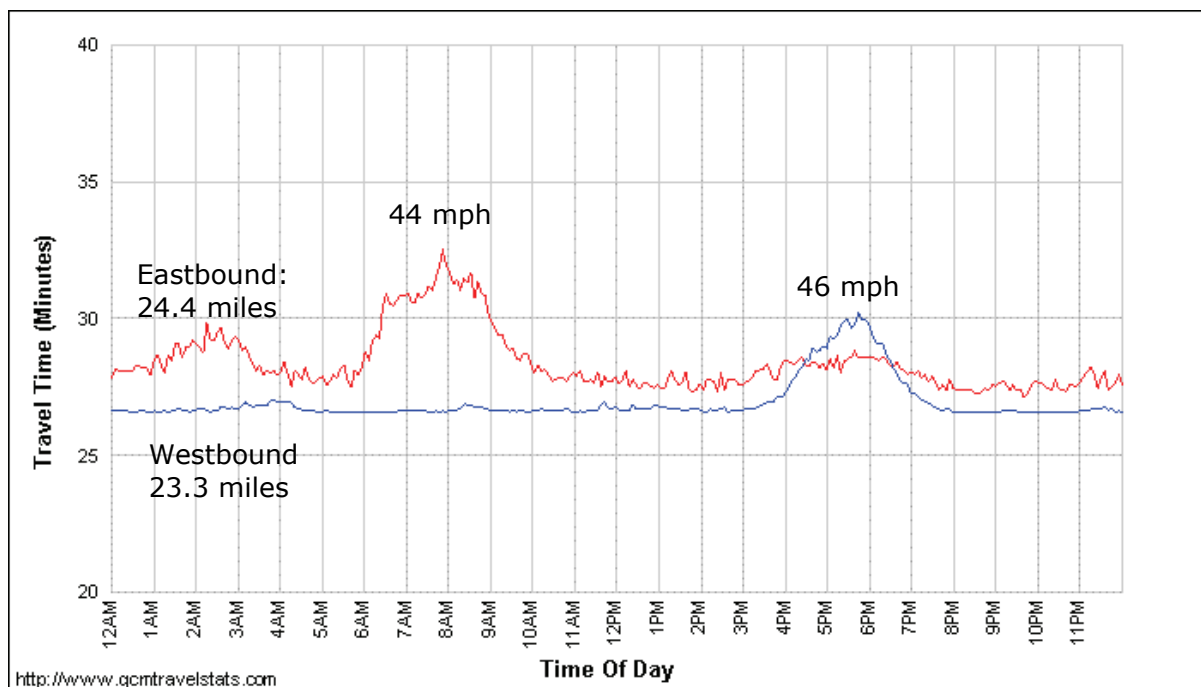
I-90/Jane Addams Memorial Tollway Traffic Congestion

The Jane Addams Memorial Tollway exhibits peak-direction, tidal flow congestion amenable to the first regional demonstration of roadway pricing. For eastbound travel from the Elgin Toll Plaza to River Road, peak-period delay adds six minutes to a twenty-seven minute trip, with substantial variation adding up to twenty minutes to the peak-period inbound trip. Thus, for this 24.4-mile stretch of the Tollway, average speeds bottom out at 44 miles per hour, though variation can bring the speed down to as little as 27 miles per hour. Much of the delay is concentrated at the eastern terminus of the Jane Addams Memorial Tollway, where there are substantial operational problems with stop-and-go traffic, but delay can occur anywhere on the Tollway.

Westbound traffic does not face the same operational issues as eastbound traffic, so westbound afternoon delay is not as high. For the 23.3-mile stretch from the Devon Toll Plaza to the Elgin Toll Plaza, typical peak delay adds more than three minutes to the twenty-seven-minute trip, bringing the speed down to 46 miles per hour. Variation can add another 14 minutes, or a speed as low as 32 miles per hour.

2007 weekday travel time averages throughout the day are shown in Figure 1.

Figure 1
2007 I-90/Jane Addams Memorial Tollway Average Weekday Travel Times



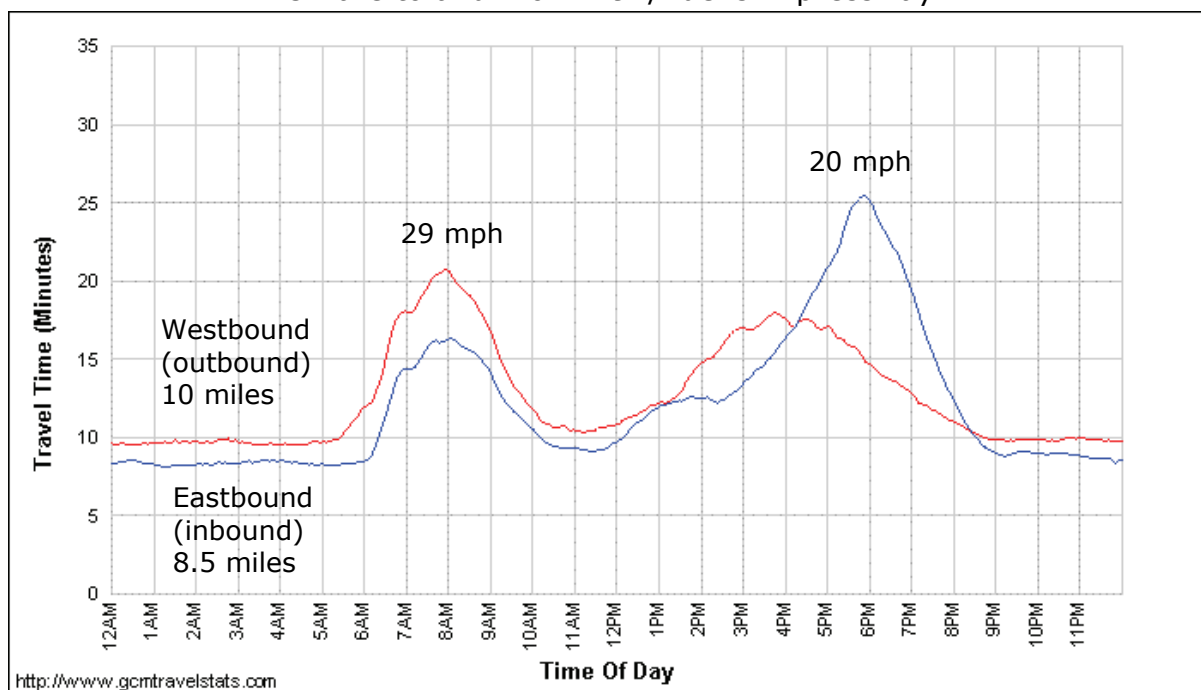
Congestion Reduction Overview: Northwest Corridor Congestion (Cont'd)

I-90 Kennedy Expressway Traffic Congestion

The easternmost toll collection sites for the Jane Addams Memorial Tollway are adjacent to O'Hare International Airport (I-190) and the Kennedy Expressway (I-90). Because of higher traffic levels and the influence of the airport, the traffic characteristics of the Kennedy Expressway are substantially different than the Jane Addams Memorial Tollway. Each direction on the Kennedy has distinct morning and evening delays. In 2007, for the 10-mile-long west segment of the Kennedy (I-94 to O'Hare), outbound (westbound) traffic peaked at about 7:55 a.m. in the morning, when travel times average 20.73 minutes (29 mph), compared to a minimum average of 9.50 minutes. 2007 inbound travel times peaked at 5:50 p.m., when they reached 25.47 minutes for the 8.5-mile measured segment (20 mph), compared to the minimum average of 8.17 minutes. Thus, congestion occurs inbound and outbound in both the morning and evening, with city-to-suburb commuters having especially high delay.

A major goal of this program is to substantially reduce Kennedy Expressway congestion. Thus, congestion pricing for the River Road toll plaza may need to be substantial, so that the higher demand to the east is moderated. This will be discussed in detail in the congestion reduction strategy. 2007 weekday data are shown in Figure 2.

Figure 2
2007 I-90/Kennedy Expressway Average Weekday Travel Times
O'Hare to and From I-94/Edens Expressway



The Local Public's Acknowledgement of the Congestion Problem

The Chicago region has more than eight million residents. The core values articulated by these residents include their personal mobility and accessibility to their homes, businesses, schools, and communities (*2030 Regional Transportation Plan*). Mobility of people and goods strengthens our economy. Yet traffic congestion threatens mobility and accessibility by increasing travel time and travel costs. Incidents, including traffic crashes, breakdowns, and other disruptions, add to the time people must set aside to take a trip and arrive on time.

A poll that was part of the public involvement process for the 2006 update to the Regional Transportation Plan indicated that "improved traffic congestion management" ranked 4.2 on a 5 point scale for importance. This poll also showed that about 86% "supported increasing overall levels of funding for transportation," with new money, and not just for "repair and rebuilding" (*Public Priorities for Regional Transportation Investment*, p. 18). This seems to indicate a desire for "value for money," real improvements in return for better financing.

Regional residents are voicing their opinions about congestion in formal surveys, opinion polls, and in active participation in the transportation planning process. Public involvement activity by the Chicago Area Transportation Study summarized in the *2006 Congestion Management System Status Report* (p. 2-8) indicated that more than 85% of the automobile users identified traffic congestion as a problem. About half of automobile users also noted "intersection delays" as issues. In addition, while the most frequent suggested improvements were for system expansions, large portions of the responses suggested specific improvements to highway and transit operations and services (pp 2-10 to 2-11).



Our Political Leadership Is Ready to Solve Our Congestion Problem

"The Illinois Tollway is definitely back in the business of making it easier and quicker for people to get where they need to go. Completing system-wide Open Road Tolling last year and the I-355 South Extension this year are evidence that customers' needs once again come first."

**Hon. Rod Blagojevich,
Governor of Illinois**

Reducing congestion is a priority for the Chicago region's leadership. The Illinois Tollway, under the leadership of Governor Blagojevich, has instituted open-road tolling and wide-ranging value pricing studies and experiments, including a very successful effort to encourage the use of transponders by deep-discounting their use. Governor Blagojevich also provided the leadership for substantial additional toll road capacity and a new toll road. Transit agencies instituted value pricing by offering substantial discounts and better service for automated fares.

The region has committed substantial funds to congestion relief. The region plans to spend \$17.9 billion in capital improvements by 2030 to improve and expand the region's transportation system,

including \$5 billion for arterial, bus, walking, biking and freight strategies. Moreover, the region will spend an additional \$47 billion required to maintain the existing system in good working order (CMAP, *2030 Regional Transportation Plan*, 2006).

CMAP takes on congestion. The Chicago Metropolitan Agency for Planning was established by the Illinois Legislature and the Governor in 2005 to make better regional decisions to effectively address congestion and other challenges.

Chicago 2016. Chicago has been selected as the U.S. candidate city to host the 2016 Olympic Games, partly because of our extensive transportation infrastructure. To assure a successful Olympiad, the region is pursuing transportation improvements and increasing our ability to manage our transportation system. Community support behind this effort is strong.

"If fees must be raised, they must be raised strategically to improve the performance of the transportation system. Users must be given incentives for better travel decisions."

Randy Blankenhorn, Executive Director

Submitting Agencies

The following five agencies are sponsoring this submittal:

- **Illinois Tollway.** The Illinois Tollway consists of 286 miles of limited access highways serving northern Illinois. Annual toll transactions totaled 684 million passenger vehicles and 84 million commercial vehicles in 2005. Recent reform led to a \$6.3 billion congestion relief effort by the Illinois Tollway, including a progressive program of open-road tolling at highway speeds at all 20 mainline toll plazas, capacity expansion, rebuilding nearly the entire system, and value pricing. The Tollway is governed by an 11 member Board of Directors that includes the Governor of Illinois and the Secretary of the Illinois Department of Transportation, ex-officio. The Board of Directors has the power to manage and operate the Tollway system, including the power to raise and lower toll rates.
- **Illinois Department of Transportation.** The department is responsible for nearly 17,000 highway miles, including more than 2,000 miles of Interstate highways and nearly 8,000 bridges. IDOT employs approximately 6,000 fulltime employees. The IDOT construction program is nearly \$2 billion annually.
- **Pace Suburban Bus Service** Pace Suburban Bus Service provides bus service for Chicago's suburbs. Pace employs about 1,500 staff in 11 operating divisions. 240 Pace fixed bus routes provide service to 210 municipalities and 147 rail stations. There are 625 vanpools. 2006 Pace ridership totaled 38.1 million, including 1.7 million vanpool rides.
- **Chicago Metropolitan Agency for Planning.** The Chicago Metropolitan Agency for Planning (CMAP) was created recently to integrate planning for land use and transportation in northeastern Illinois. CMAP staffs the MPO Policy Committee, the metropolitan planning organization.
- **Regional Transportation Authority.** The Regional Transportation Authority (RTA) oversees the nation's second largest transit system. The RTA's mission is to ensure financially sound, comprehensive and coordinated public transportation for northeastern Illinois.

CMAP and its member agencies will work together to integrate this multi-jurisdictional demonstration. In addition to the submitting agencies, county and municipal governments will need to be involved in the development and implementation of this program. Most of the affected governments are within the Northwest Municipal Conference. The Conference includes over 1.3 million residents residing in 47 municipalities and three townships. The City of Chicago will also be involved near the eastern terminus. Finally, the primary counties involved are Cook, the largest in the region, and Kane.

Overview of Proposed Approach: Comprehensive Strategy

Proposed Approach

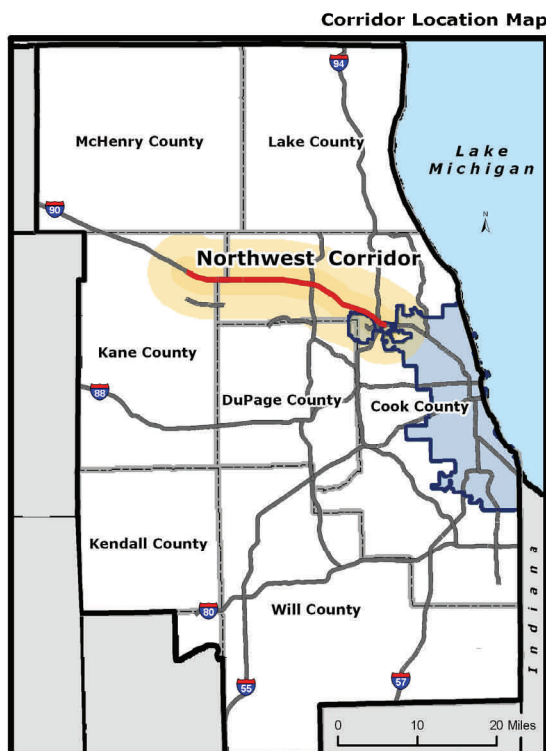
The approach of the congestion reduction demonstration is to apply direct roadway pricing, varying by time of day, to reduce congestion. The roadway pricing will be applied on facilities where it is enabled by existing technologies and existing legislation. This will enable rapid implementation. The proposed implementation of roadway pricing is explained on the following pages.

In order to make direct roadway pricing work, transit alternatives and improvements to alternative travel corridors is necessary. New transit will be focused on the Northwest Tollway, and will be made more attractive by running point-to-point at free-flow highway speeds. Arterial improvements will be focused on intersection improvements, incident management, and ITS improvements.

Program Goals

- **Reduce Travel Times**
- **Reduce Congested Hours**
- **Increase Travel Time Reliability**
- **Increase Person Throughput**
- **Reduce Vehicle-Miles Traveled**
- **Reduce Number of Crashes**

Figure 3
Corridor Location Map



Program Objectives

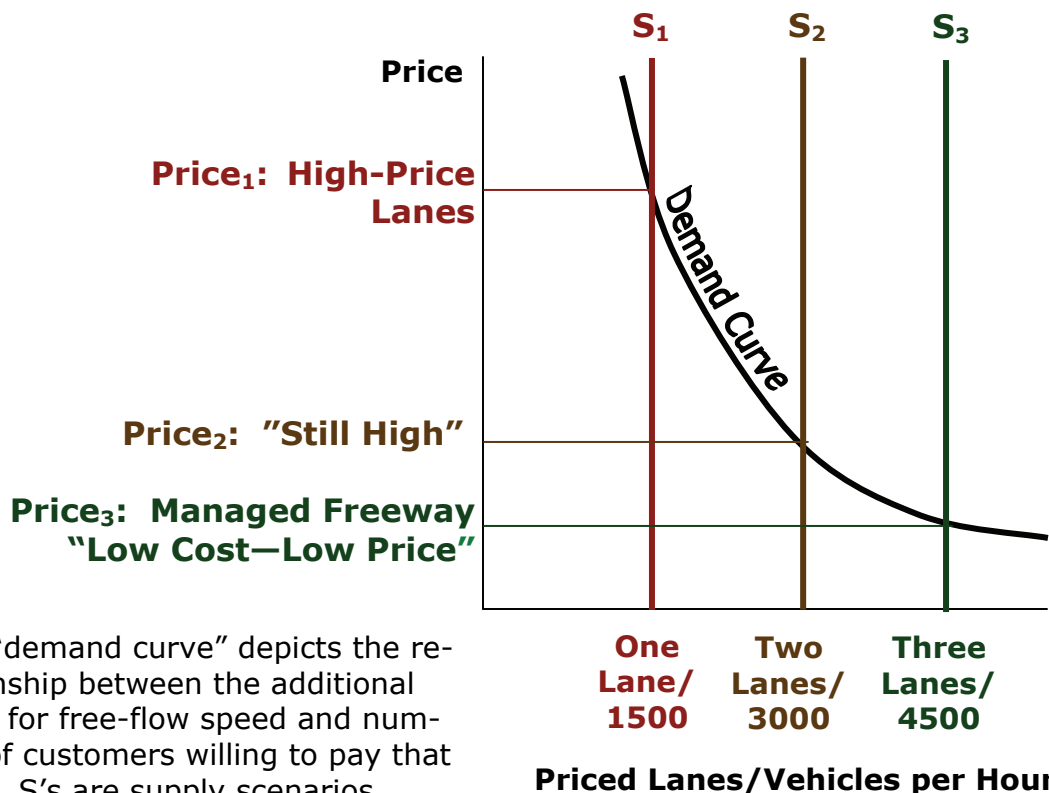
- Reduce average peak-time travel times on the Jane Addams Memorial Tollway by **5 minutes per trip** eastbound from 2007 travel times, and 3 minutes per trip westbound.
- Reduce average inbound Kennedy Expressway peak delays by **an additional 5 minutes** in both the morning and afternoon peak periods.
- **Reduce travel time variation by fifty percent.**
- Provide new transit services for **8000 new transit riders** per weekday.
- Reduce the number of annual crashes on the Jane Addams Memorial Tollway by 20% (more than **400 fewer crashes** per year).
- No statistically significant increase in arterial congestion.

Comprehensive Congestion Reduction Strategy: Managed Freeway Approach

We will utilize a congestion-priced managed freeway approach to maximize the number of people benefiting from uncongested speeds — at the lowest possible prices. For our Northwest Corridor congestion pricing program, all lanes will be priced. Therefore, all lanes and all travelers will travel at free flow speeds. Economic principles tell us that few are willing to pay high prices, but many will pay low prices. If you only have few of something to sell, you need a high price to balance demand and supply. If you have many to sell, you can charge a lower price. Applying these economic principles to freeway management, as the number of lanes—and vehicles accommodated—increases, the lower the price. Our approach of pricing all lanes will therefore yield the lowest price while still maintaining free-flow speeds. This approach also minimizes needed capital costs.

Figure 4
Economics of Managed Freeways

With a given demand for high-speed travel on free-flow lanes, represented by the “demand curve,” a managed freeway will result in the lowest price necessary to maintain free-flow speeds. A freeway managed to travel at free-flow speeds yields more people traveling at lower prices than single managed lanes.

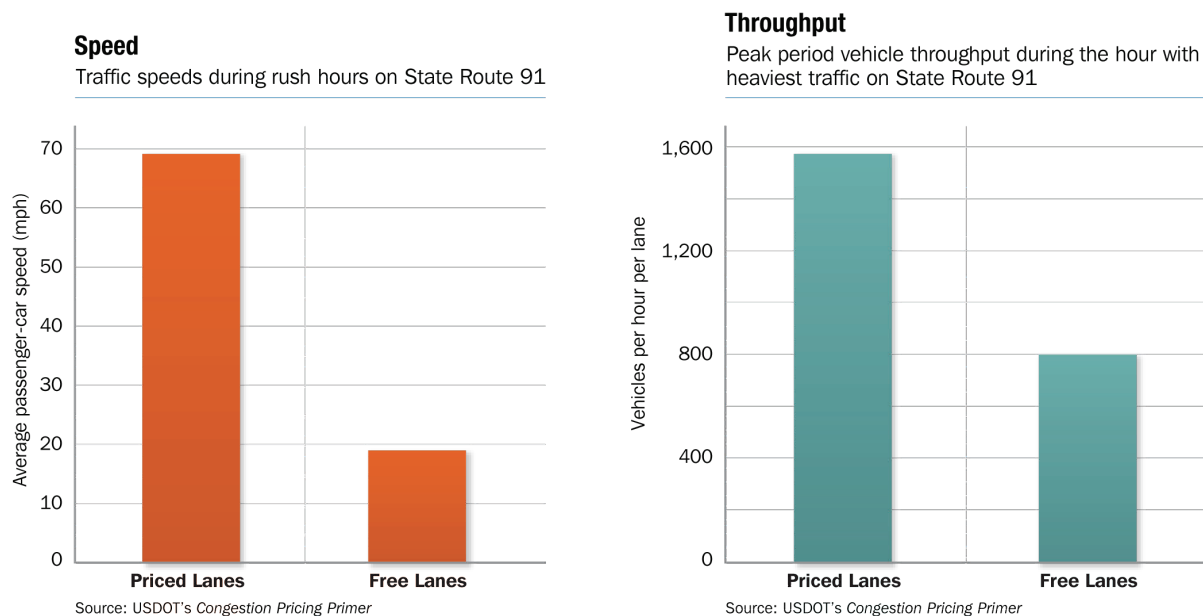


The “demand curve” depicts the relationship between the additional price for free-flow speed and number of customers willing to pay that price. S’s are supply scenarios.

Comprehensive Congestion Reduction Strategy: Operations Synergies

Synergy 1: By maintaining high speeds, we may in fact increase peak period throughput on the priced facility. A freeway may operate at very high volumes at fairly high speeds. Volumes per hour per lane may briefly exceed 2000 vehicles per hour per lane for a short time. However, such operations are vulnerable to “breakdowns.” When such breakdowns occur, the speed falls—and the throughput volume along with it. The congestion pricing we will implement will take advantage of this synergy to minimize the price necessary to achieve congestion reduction—and high speed, free flow travel. See Figure 5.

Figure 5
Congestion Pricing, Speeds, and Vehicle Throughput
Comparison of Speeds and Vehicle Throughput
on lanes with and without congestion pricing, State Route 91, California



Synergy 2: By maintaining high speeds, transit becomes much more viable. Transit vehicles operating on I-90/Jane Addams Memorial Tollway now face the same congestion as passenger vehicles. Until the proposed STAR line is built in the corridor, congestion pricing will permit an interim, point-to-point express bus service to bring high speed operations to the corridor. Likewise, a transit service operating fast enough to attract more riders will also provide an alternative to people now driving in the corridor. As we will discuss later, transit is also a prime mode of travel for people with low incomes. A viable congestion pricing proposal is contingent on a viable corridor transit option. We have both.

Congestion Pricing and Affected Areas: I-90/Jane Addams Memorial Tollway

We propose to implement direct roadway pricing on I-90/Jane Addams Memorial Tollway. To eliminate recurring congestion on the Jane Addams Memorial Tollway, we propose to implement higher peak-period fees at main-line and ramp toll collection points, both east-bound and west-bound, from the Elgin Toll Plaza to the River Road and Devon Avenue Toll Plazas, inclusive.

Toll collection policy in the area affected by congestion pricing is, and will continue to be, “everyone pays.” Vehicles entering downstream or exiting upstream of mainline toll plazas will pay at ramp toll plazas. However, pricing will be managed strategically to minimize congestion. Thus, not all ramp toll plazas will have congestion surcharges, if congestion management dictates traffic diversion.

Direct highway pricing is intended to eliminate recurring congestion on the Jane Addams Memorial Tollway, and to significantly reduce congestion on the Kennedy Expressway, downstream of the River Road Toll Plaza and upstream of the Devon Avenue Toll Plaza. Table 2 (next page) shows how congestion pricing at each of the toll plazas will meet congestion-reduction goals. The River Road Toll Plaza and associated toll plazas, directly feeding into the Kennedy, would have the highest congestion surcharges, owing to the extreme congestion downstream.

A variable rate strategy will be used to reduce or eliminate congestion. Variable toll rates are proposed for Jane Addams Memorial Tollway. These rates will be fixed by the Tollway’s Board of Directors, and would be signed and posted on the internet. Rates would be reviewed and adjusted every three months to reflect traffic conditions, set to keep the Jane Addams Memorial Tollway congestion-free and reduce corridor congestion.

Tolls would be established to substantially reduce congestion on the Kennedy Expressway, and keep the Jane Addams Memorial Tollway running at free-flow speeds. Although we note that volumes can be higher at slightly lower speeds, this is often only a temporary phenomenon, as these situations—technically Level of Service E—typically soon break down to Level of Service F, with a combination of ever lower speeds and lower volumes being serviced. Thus, free-flow speeds are more sustainable than more congested, higher volume conditions. On the Jane Addams Memorial Tollway, tolls would be set to have no more than 1500-1700 vehicles per hour per lane during the peak period.

A focus of the last rate increase was increasing truck toll rates. Peak-period truck tolls are now up to ten times higher than passenger vehicles. Thus, toll revenues from trucks are proposed to be zero-sum under congestion pricing.

Congestion Pricing and Affected Areas: I-90/Jane Addams Memorial Tollway

Table 2
Congestion Pricing Goals by Toll Plaza

Plaza	Primary Pricing Goals	Weekday Congestion Charge Plan (subject to approval and change)	Non-Jane Addams Tolling
River Road Plaza 19 (Upstream of Inbound Kennedy)	<ul style="list-style-type: none"> Eliminate recurring congestion upstream on eastbound Jane Addams Memorial Tollway; Substantially reduce congestion on downstream Kennedy Expressway 	<ul style="list-style-type: none"> Substantial AM and PM peak congestion surcharges Moderate AM and PM shoulder congestion surcharges No off-peak congestion surcharges 	<ul style="list-style-type: none"> This will also result in a congestion surcharge of only those Tri-State Tollway customers who enter the east-bound Kennedy Expressway (+)
Devon Ave Plaza 17	<ul style="list-style-type: none"> Eliminate recurring congestion downstream on westbound Jane Addams Memorial Tollway 	<ul style="list-style-type: none"> Moderate PM Peak Congestion Surcharges No AM Peak, shoulder, or off-peak congestion surcharges 	<ul style="list-style-type: none"> Limited secondary impacts
O'Hare East Plaza 32 and O'Hare West Plaza 31	<ul style="list-style-type: none"> Reduce O'Hare area congestion; Eliminate on-off ramp travel for surcharge avoidance 	<ul style="list-style-type: none"> Eliminate fare avoidance at River Road Toll Plaza 	<ul style="list-style-type: none"> Limited secondary impacts
Ramp Plazas Between Devon and Elgin Toll Plazas	<ul style="list-style-type: none"> Eliminate recurring congestion on Jane Addams Memorial Tollway 	<ul style="list-style-type: none"> Moderate AM (eastbound) or PM (westbound) peak congestion surcharges 	<ul style="list-style-type: none"> Limited secondary impacts
Elgin Plaza 9	<ul style="list-style-type: none"> Eliminate recurring congestion on Jane Addams Memorial Tollway 	<ul style="list-style-type: none"> Moderate AM (eastbound) or PM (westbound) peak congestion surcharges 	<ul style="list-style-type: none"> Limited secondary impacts

Congestion Pricing and Affected Areas: I-90/Jane Addams Memorial Tollway

Figure 5
Photograph of Our Open Road Tolling



Institutional change is not required for Jane Addams Memorial Tollway congestion pricing. Additional legislation is not required to implement proposed congestion tolling on I-90, since the Board of Directors is already empowered to establish fees. The proposed congestion fees appear to be consistent with existing bond covenants governing revenues and reserves, but this has not been confirmed by bond counsel. The net financial impact of this proposal on Tollway finances is expected to be modestly positive.

For the last major toll change, established in 2004 to finance the Tollway's ongoing congestion relief program, implementation took place over a period of just months, being implemented on January 1, 2005.

Communications infrastructure is in place today to implement congestion pricing. The Jane Addams Memorial Tollway (I-90) is operated by the Illinois State Toll Highway Authority (the Illinois Tollway). The Illinois Tollway has implemented electronic toll collection system-wide using radio-frequency identification (RFID) to communicate with vehicles via dedicated short range communications (DSRC).

"It's about getting people a chance to be able to spend less time stuck in traffic, more time at home with their families, more time at work being productive."

- Governor Blagojevich, on Open Road Tolling

The Illinois Tollway's DSRC/RFID system is called I-Pass. Approximately 80% of Tollway customers have acquired transponders, since prices were doubled for cash payments. The Illinois Tollway has a reciprocity agreement with E-ZPass agencies, further increasing the functionality of electronic toll collection.

The Illinois Tollway recently implemented highway-speed tolling for vehicles with I-Pass and compatible transponders at all of its 20 mainline former barrier plazas.

Congestion Pricing and Affected Areas: I-90/Jane Addams Memorial Tollway

This \$730 million project, “Open Road Tolling,” was implemented over a 22 month period from 2005 to 2007. Open Road Tolling was part of the Illinois Tollway’s on-going \$5.3 billion congestion relief program.

As part of the congestion-relief program, differential pricing was implemented for trucks, offering, for example, a \$1.00 (25%) off-peak discount from the \$4.00 fee for five-axle vehicles. Although study of the program showed that trucks were not highly responsive to modest peak-period price differentials on the interstate highway system, the program also demonstrated the technical feasibility of time-of-day variable pricing using technology and institutional mechanisms now in place.

Transit Services

I-90 Express Service

The I-90 Express Service will provide free-flow, highway-speed, point-to-point bus transit service between four major nodes along I-90, plus an end-stop at a CTA Blue Line station near Chicago-O'Hare International Airport. Service will be via congestion-priced, free-flow I-90. Such express routes have a cluster of stops at the origin and a cluster of stops at the destination, without stops in between.

The I-90 Express Service is made possible by I-90, a limited access roadway, controlled by congestion pricing, making a high-speed operation possible.

Park-and-ride facilities are important components of the I-90 Express Service. Pace is in the process of evaluating the need for new park-and-ride facility locations and the quality of amenities at these facilities. The I-90 Express Service will be supported by real-time information systems.

The infrastructure needs of the I-90 Express Service will consist of:

- Express stops for point-to-point service
- Park-and-ride facilities
- Real time bus information systems
- Bi-directional service, including peak period service.

The I-90 Express Service will provide regional connectivity, reduce congestion, and improve air quality, reducing overall travel time and providing high quality rapid transit service in the corridor.

Connections

New local circulators would be instituted at termini and stops.

- Rosemont: Chicago-O'Hare International Airport, Chicago Loop (via CTA Blue Line)
- Des Plaines Oasis: Elk Grove Village industrial areas (currently served by Routes 223 and 757). Limited park and ride at this stop.
- Arlington Heights Park and Ride: Arlington Heights Rd/Algonquin Rd office agglomeration (currently served by Routes 606, 616 and 757). Full park and ride facility at this stop.
 - Meacham Road: Woodfield Mall (Routes 208, 554, 606, 696, 699, 757, 905), Northwest Transportation Center (Woodfield routes and Route 600), Golf Road office corridor (Routes 208 and 606). Limited park and ride at this stop.

Transit Services

I-90 Express Service (Continued)

- Prairie Stone: Prairie Stone complex (Routes 610, 767), Barrington Road office corridor (Route 557); limited park and ride at this stop.
- Randall Road: Randall Road business corridor (Route 550), Elgin Transportation Center (Routes 541, 542, 543, 544, 546, 547, 548, 549, 552, 554, 556, 801). Full park and ride facility at this stop
- Cumberland Avenue (Future): Some or all services terminating at River Road in the initial implementation would be extended to Cumberland Avenue when the I-190 improvement project, to include the eastbound flyover to the Cumberland Avenue exit, is constructed. A Cumberland Avenue terminus would provide better connectivity to the CTA bus system, and would provide access to the office agglomeration at Cumberland Avenue.

Infrastructure

The following recommended improvements would decrease travel times and help alleviate traffic congestion.

- Transit signal priority, where feasible, will be provided along River and Higgins Roads between the Rosemont station exit and the I-90 entrance ramp; on Randall Road at the I-90 access ramps and Point Blvd.
- Full bus access will be provided at Beverly Road and at Barrington Road. Currently, these interchanges provide partial access. Full access could be accomplished by full interchanges or dedicated pulloffs.
- Pulloff stations will be provided immediately to the west of Meacham Road and between Beverly Road and Route 59.
- Toll plazas would allow I-90 Express Service use of the emergency lane (at the right end of the plaza) at certain times. An automatic access gate will provide access from the River Road Toll Plaza to the CTA Rosemont Station driveway for Express transit vehicles.

Point-to-Point Route Descriptions: A thru D

There would be a bus running from one of these routes approximately every 6 minutes between 5-9 am and 3-7 pm, and 12 minutes during off-peak periods on I-90 (30 minutes late night). See Table 3 and Figure 6.

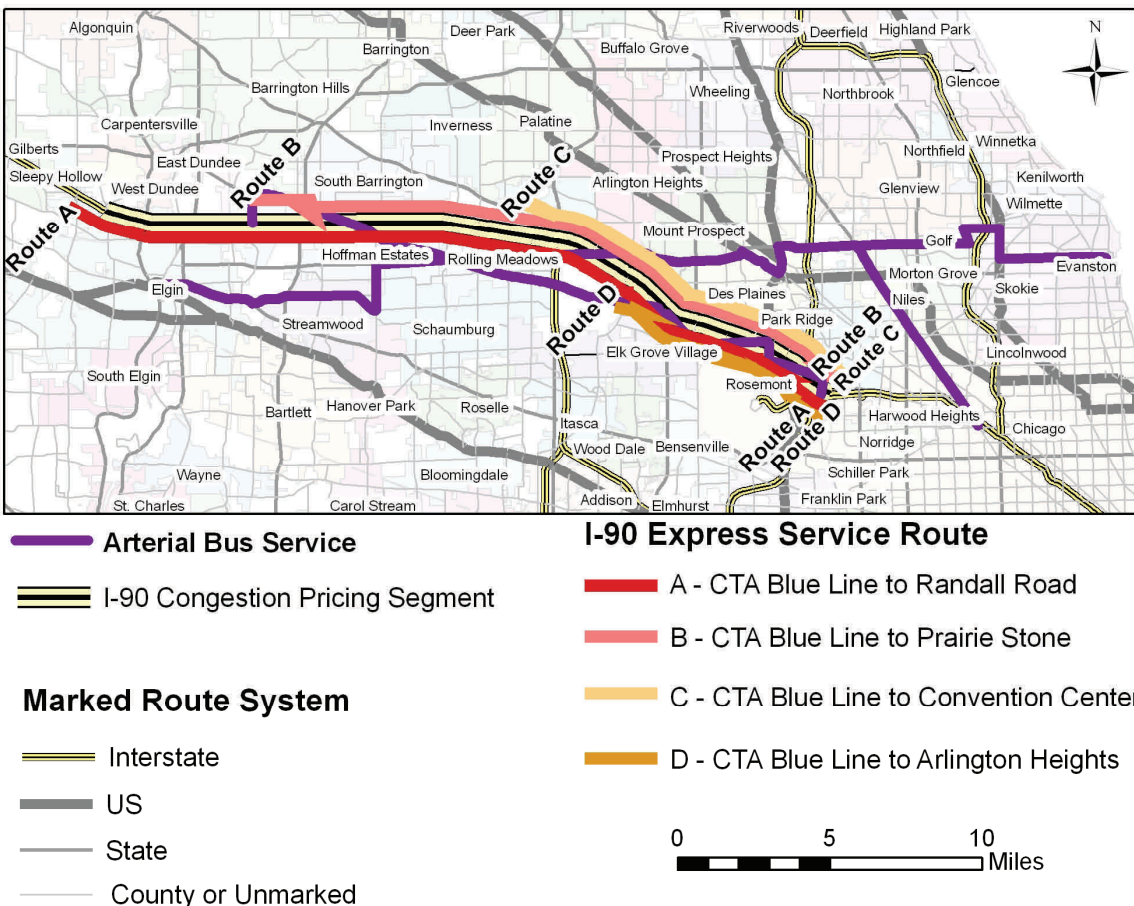
Transit Services

I-90 Express Service (Continued)

Table 3
I-90 Express Service Summaries

Route Letter	Point to Point	Span of Service	Headway	Terminus or Park and Ride
Route A	<u>Rosemont-Randall Rd</u>	5am to 9pm	30 min peak; 90 off-peak	Randall Rd & Point Blvd.
Route B	<u>Rosemont-Prairie Stone</u>	5am to 9pm	30 minutes peak only	Prairie Stone Transportation Ctr
Route C	<u>Rosemont-Convention Center</u>	5am to 12am	15 min peak; 30 off-peak	Pull-off station, just west of Meacham Rd
Route D	<u>Rosemont-Arlington Heights</u>	5am to 12am	15 min peak; 30 off-peak	Elk Grove Village, Des Plaines Oasis

Figure 6



Transit Services

Arterial Bus Services

We propose arterial bus services in the Northwest Corridor. These services will provide a viable transportation alternative to the single occupancy vehicle. Arterial buses will operate in mixed traffic on arterial streets, and will integrate strategies for rapid passenger boarding and alighting with high operating speeds. These speed-related strategies include low-floor buses, far-side, far-spaced stations, real-time information, and traffic management solutions, such as transit signal priority where feasible and perhaps queue jump lanes at a few selected locations. Arterial bus services would be integrated into the surrounding communities through feeder service, and will be a backbone of regional boulevards providing multi-modal service with high person throughput.

It is anticipated that arterial bus operations will be facilitated by other arterial corridor management strategies to be implemented as part of the integrated corridor management package. These strategies include surveillance and incident response, traffic control, lane management, information dissemination, and traffic law enforcement. These are also discussed elsewhere.

Golf Road Arterial Bus Service

The Golf Road Arterial Bus Service will provide daily service operating on Golf Road between Davis Street CTA Station in Evanston and the Elgin Transportation Center in Elgin. Service will also connect Pace services at Northwest Transportation Center, Woodfield Mall, Cumberland Circle, Des Plaines Metra Station, Golf Mill Mall, Old Orchard, creating new main line service in the Golf Road corridor. Local circulators would be instituted to serve suburban stop locations along with existing fixed route service.

Golf Road Arterial Bus Service Routing:

Benson Ave. – **Evanston/Davis St. Station** – Asbury – Church – Skokie – Golf – **Old Orchard Shopping Center** – Old Orchard Rd. – **Skokie Court House** – Harms – Golf – Milwaukee – **Golf Mill Mall** – Maryland St. – Milwaukee – Golf – College – **Oakton Community College** – Des Plaines River Rd. – Miner – Northwest Highway – State St. – Golf/Wolf Rd. – Golf – **Woodfield Mall** – Mall Dr. – Kimberley – **Northwest Transportation Center** – Martingale – Woodfield Rd. – Meacham – Golf – Barrington – Schaumburg Road – Irving Park/Chicago Street – Center – Highland – **Elgin Transportation Center**

Table 4
Golf Road Arterial Bus Service Summary

Approximate One Way Mileage	Approximate One-Way Travel Time	Weekday Frequency	Bus Requirements	Service Hours
39.70	129 - 158 minutes	20 min peak; 30 off-peak	9 peak, 5 off peak	M – F 5 am – 9 pm

Transit Services

Arterial Bus Improvements

Milwaukee Avenue Arterial Bus Service

The Milwaukee Avenue Arterial Bus Service will provide weekday service operating on Milwaukee Avenue between Jefferson Park CTA Station in Chicago to Golf Mill Mall in Niles. Service will connect Pace services at Golf Mill Mall and Jefferson Park CTA Station, creating main line service in the Milwaukee Avenue corridor. Local circulators would be instituted to serve suburban stop locations along with existing fixed route service.

Routing:

Jefferson Park CTA Station – Milwaukee – Golf Mill Mall.

Table 5
Milwaukee Avenue Arterial Bus Service Summary

Approximate One Way Mileage	Approximate One-Way Travel Time	Weekday Frequency	Bus Requirements	Service Hours
6.79	26 – 30 minutes	20 min peak; 30 off-peak	5 peak, 3 off peak	M – F 5 am – 9 pm

Higgins Road Arterial Bus Service

The Higgins Road Arterial Bus Service will provide daily service operating on Higgins Road between Sears Prairie Stone Hoffman Estates and the Rosemont CTA Station in Rosemont. Service will also connect Pace services at the Northwest Transportation Center in Schaumburg, O'Hare Kiss-n-Fly, and Rosemont CTA Station, thus creating new main line service in the Higgins Road corridor. Local circulators would be instituted to serve suburban stop locations along with existing fixed route service.

Routing:

Prairie Stone Transit Center – Prairie Stone Parkway – Higgins – Mall Dr. – Kimberly Drive – Northwest Transportation Center – Martingale – Higgins – Touhy – Higgins – Mannheim Road – Bessie Coleman – O'Hare Kiss-n-Fly – Bessie Coleman – Mannheim – Higgins – River Road – Rosemont CTA Station.

Table 6: Higgins Road Arterial Bus Service Summary

Approximate One Way Mileage	Approximate One-Way Travel Time	Weekday Frequency	Bus Requirements	Service Hours
23.29	85 – 94 minutes	20 min peak; 30 off-peak	7 peak, 4 off peak	M – F 5a – 9p

Transit Services

Feeder Services. Park and Ride

Local Circulator (Feeder) Routes

The success of the regional arterial system depends on how well it brings passengers to the network: the “first and last mile” of a passenger’s trip. We propose local circulator services connecting to main line Arterial Bus and I-90 Express Services serving commercial, retail and residential areas. The circulator system can vary depending upon market conditions, land use and operating characteristics.

The feeder services will connect to the Arterial Bus and I-90 Express Services at regional transit centers and on-line station stops. Potential routes will operate based on market demand and land use densities. Routing characteristics include dedicated routing, flexible services that can deviate within a defined corridor or area and services operating on request within a defined service area. These routes and services will provide the necessary connectivity between the places where people live, work, shop, and play and the mainline bus transit lines. When this system is combined with the value pricing measures proposed, it will increase travel options and mobility in the region. Detailed market analysis and service planning will continue. Current service will be utilized where appropriate.

Park and Ride Lots

We propose to construct park and ride facilities. Park and ride lots will be provided at appropriate service points along the arterial and express corridors, and at appropriate points of transit service to or within the corridors. These facilities will concentrate transit riders, particularly those from low density developments that do not receive frequent transit service. These convenient collection and transfer points will provide a means for automobile users, pedestrians, and bicyclists to gain access to express bus service. These lots also can be used as “park and pool” locations to consolidate riders participating in vanpools and carpools. 1,300 spaces are proposed along I-90.

To provide a high level of access to transit, park and ride lots will serve the major corridors this proposal contemplates. They will at the same time be located along major arterials and at nodes of activity. Site selection will in addition be based on travel time from point of origin to destination, competing service and facilities, feeder route lengths, site access points, service accommodation needs as well as site characteristics and amenities.

Businesses that provide personal services can be located adjacent to park and ride facilities. Services such as daycare and dry-cleaning can be offered in an effort to reduce the need for automobile trips and the resulting congestion.

Park-and-ride facilities also can be incorporated into transportation centers and transfer facilities where a number of transit routes and modes intersect.

Corridor Operations Improvements

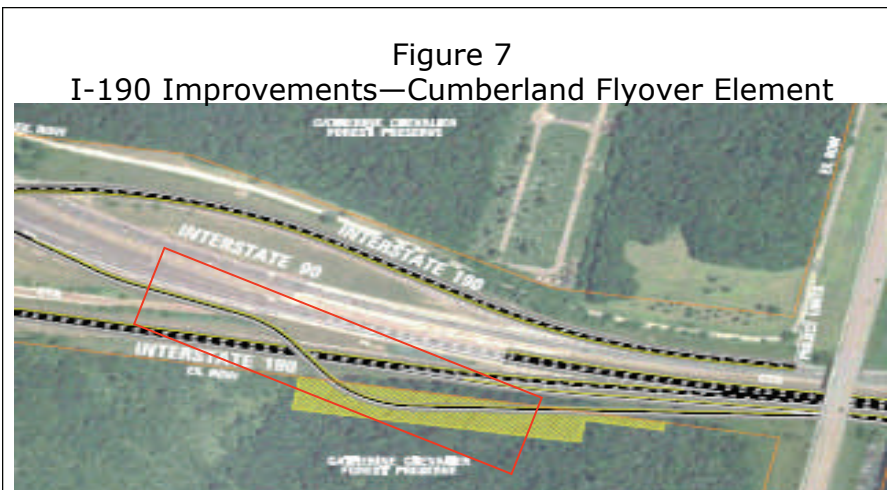
I-190/Cumberland Flyover

Congestion pricing and managed tollway traffic solutions require viable alternative choices to be effective at reducing congestion. This includes not only transit alternatives, but arterial travel as well. Traveler information must be available for static and dynamic conditions, so travelers can be informed of the alternatives and know how to use them. Just as importantly, the priced road must operate well, and be free of operational problems that may cause congested conditions even with lighter travel demand. This proposal includes improvements to parallel and intersecting roadways, as well as intelligent transportation solutions to corridor management challenges.

I-190 Improvements/Cumberland Flyover

The Jane Addams Memorial Tollway is a modern, well-designed highway with few operational problems. However, the terminal junction with I-190 presents a serious operational challenge, particularly for eastbound traffic. This convergence includes three east-bound mainline I-90 lanes (64,670 EB AADT) and two mainline I-190 lanes (36,000 EB AADT). These five lanes converge into just three eastbound lanes downstream on the I-90/Kennedy Expressway, with the two I-190 lanes “exit only” for successive southbound and northbound Cumberland Avenue exits. Substantial weaving takes place among I-90 travelers exiting at Cumberland and I-190 travelers. This weave, over a space of just 1000 feet for southbound exiting/far-right traffic, plus another 1800 feet for northbound exiting/near right traffic, causes substantial service breakdowns and extraordinary travel delay.

As part of this project, to reduce delay caused by weaving, metropolitan Chicago is requesting Interstate Discretionary funds to complete a flyover from the eastbound I-90/Jane Addams Memorial Tollway to the southbound Cumberland Avenue exit. The flyover will exit the Jane Addams Memorial Tollway from the right-hand low-speed toll barrier, rather than the high-speed open road tolling facility. See Figure 7.



This flyover element will be integrated into I-190 improvements, including a collector-distributor system, that are in preliminary engineering at this time. The flyover concept was developed in that engineering process.

Corridor Operations Improvements

Arterial Improvements

Arterial Improvements. While this proposal is for a pricing demonstration, we propose permanent infrastructure improvements to support the demonstration. If arterials do not present an attractive alternative, pricing will be ineffective. We don't want to move congestion to arterials. We want to reduce congestion.

Many regional arterial corridors are oversaturated during peak periods, so signal timing improvements are likely to bring only off-peak or marginal benefits. Fewer vehicles or more capacity are required. Any additional demand shifted to the arterial system by congestion pricing must be kept at a level manageable through intersection capacity and signal timing improvements, given that corridor add-lane improvements would be cost prohibitive and beyond the context of this demonstration project. The arterial corridors that will be influenced by congestion pricing along I-90 include IL 62, IL 58, IL 72/Higgins, IL 59, IL 83 and Elgin O'Hare/Thorndale, and others that may be identified during the process. Federal funding is being sought for these improvements as part of this application, and their respective costs are listed in Table 8 (page 32).

Since this is a demonstration, we looked for necessary improvements that had already been studied or at least identified, so that we might implement the arterial improvements quickly. Many intersections along the I-90 corridor are under study as part of larger, long-term projects. The 2030 Regional Transportation Plan supports interim improvements. Therefore, expedited federal funding and approvals of intersection components of these larger, long-term projects are being sought as part of this application.

A final list of intersections to be improved requires more extensive interagency consultation than was feasible in this proposal's short window. However, the following are illustrative projects which will either improve regional roads performance or, just as importantly, provide a local alternative to regional roads.

Illustrative List:

- U.S. 20 at Randall Road—U.S. 20 provides a good alternative to I-90 from Kane County. This interchange needs to be modernized and expanded.
- Improvements to Barrington Road, Roselle Road (including at Central Road), Meacham Road, and Plum Grove Road.
- Improvements to Arlington Heights Road/I-90 interchange
- Algonquin Rd at New Wilke Rd—Intersection Improvement
- IL 59/Sutton Rd at U.S. 20/Lake Street—Extend and add turn lanes to this grade-separated arterial intersection.
- IL 58/Golf Rd at IL 62/Algonquin Rd—Intersection Improvement

To expedite the projects and coordinate completion with the pricing demo, we will focus on projects where environmental/community impacts are minimal.

Use of Technology

Active Traffic Management on I-90

We propose "Active Traffic Management" for the Jane Addams Memorial Tollway. While pricing and a new flyover will improve the I-90/I-190 merge, active traffic management could further improve safety, throughput, and travel time reliability by employing detection and monitoring (remote traffic microwave sensors, closed-circuit TV, dynamic message signs) and dynamic speed limits.

Variable pricing will address recurring congestion, but does not adequately address the effects of incidents. Incidents reduce travel time reliability. Using active traffic management to slow traffic upstream of incidents reduces secondary crashes and allows incidents to be cleared faster.

The proposed implementation of active traffic management will also test a hypothesis that active traffic management can facilitate the high-volume convergence at I-190. Our proposal is to implement active traffic management eastbound on I-90 from approximately I-290/IL 53 east to I-190, and on eastbound I-190 from U.S. 12/45 east to I-90, so traffic on both roads is managed to the same speed at the merge during heavy conditions. As shown in the crash map in Appendix 1, the largest concentration of crashes on the Jane Addams Memorial Tollway is approaching the I-294/I-190 interchange.

The concept is that detection of congestion would be improved with closed-circuit television cameras with pan, tilt, and zoom capabilities. Cameras would be installed approximately every mile where they do not now exist. Remote traffic microwave sensors may also be used. This information would be transmitted and processed by TIMS, the Illinois Tollway's traffic management center. When an incident occurs or when merging volumes at I-190 warrant, TIMS would transmit a warning of reduced speeds, beginning with the existing variable message sign west of Illinois Route 53. Downstream, beginning near Arlington Heights Road, four successive new overhead electronic variable speed limit displays would show the appropriate speed limit to reduce the risk of

Figure 8
Overhead Electronic Variable Speed Limit Display



crashes (see Figure 8). Speeds would be ramped down to the beginning of the incident-related congestion or to the merge, as appropriate.

I-190 would operate similarly.

The initial proposal is to explore self-enforcement by providing good information and clear instructions with a well-understood benefit. However, legislation will need to follow.

Use of Technology

Integrated Corridor Management

First Line: Management of External Travel.

The Greater Chicagoland highway system serves a travel corridor that arcs from western plains and prairies through the Great Lakes states to eastern Canada. I-90 in particular provides a highway connection from Wisconsin, Minnesota, and the northwest to Chicago and points east. However, I-90 is no longer the only viable highway route for such travel moving through Greater Chicagoland. As I-90 is the most congested of travel alternatives, advance and real-time travel information will be provided to through travelers to divert travel from congested I-90 to alternatives like I-39, I-355, I-80, and I-74. The network and alternative Interstate highway routes are mapped in Figure 9.

Diverting traffic to less congested regional routes will require advance traveler information—promoting alternative routes on maps, in guides, and on-line—as well as real-time traveler information far upstream. This will be done using substantial amounts of existing technology and communications infrastructure, though some new communications and messaging equipment will be necessary.

An origin-destination survey of Illinois Tollway travelers will provide detailed management data regarding external travel as congestion pricing planning proceeds. In addition, unpublished MPO external travel survey data also sheds light on external travel. One of the 1997-1998 survey sites was on the Jane Addams Memorial Tollway in rural Boone County, where the AADT is now 48,000. Of 2,866 unfactored surveys collected for this site, only 1,322 respondents (46.1%) were for intra-state Illinois travel. 361 respondents (12.6%) had neither origins nor destinations in Illinois. An analysis of trips shows that 924 of the survey respondents (32%) had origin-destination pairs for which alternative routes like I-39, I-355, I-294, and I-80 might be feasible for users wishing to avoid congestion fees. While daily volumes of that magnitude will not be diverted, these trips represent an opportunity to employ congestion pricing and management techniques to reduce congestion.

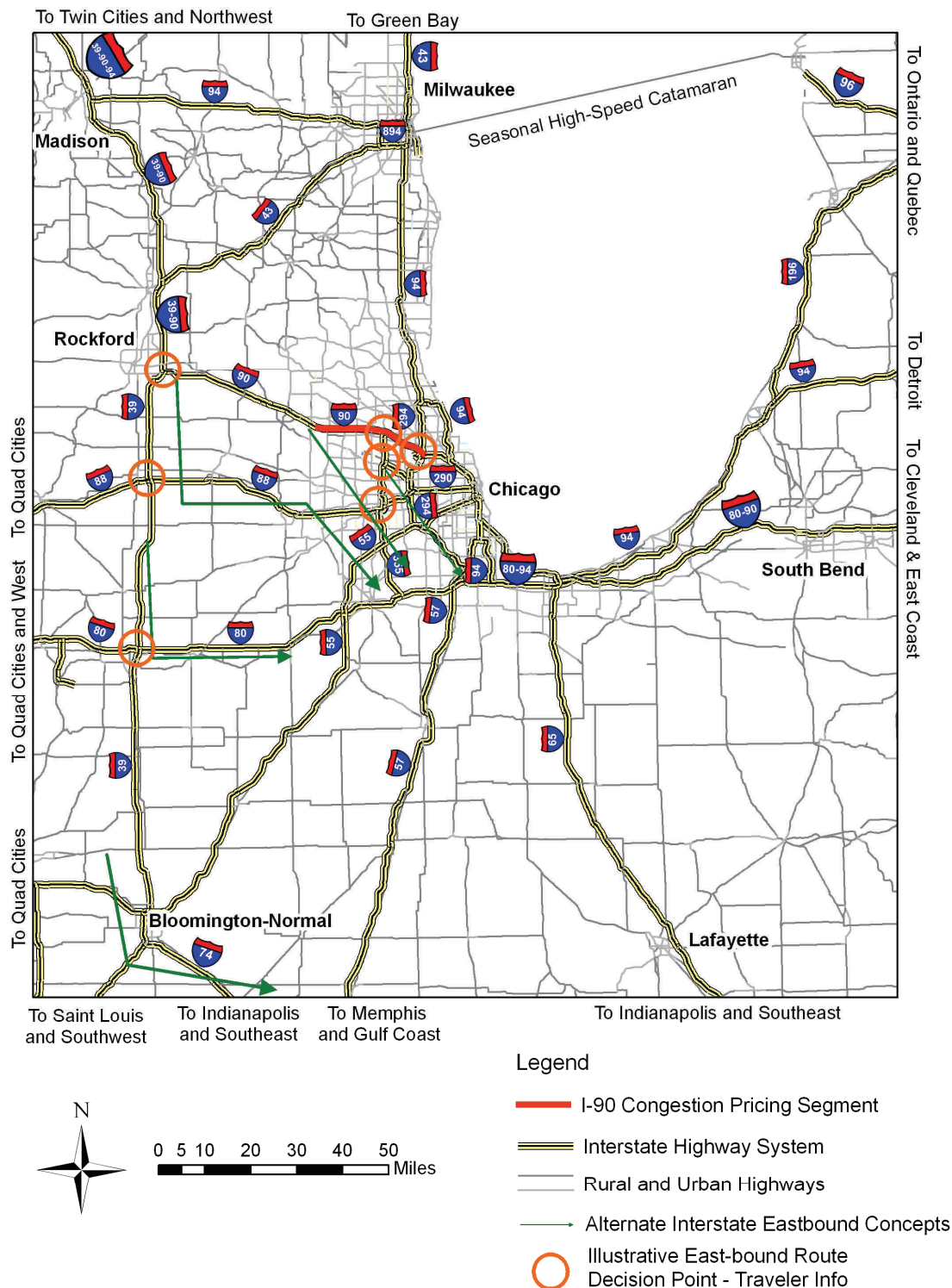
Second Line: Management of Demand Originating from Arterials

Regional mobility cannot be maintained if excessive numbers of vehicles use interstate highways as an alternative to local and regional roads. Regional trips can be managed by encouraging local alternatives to regional travel, encouraging transit use, and assuring equitable use of regional roads. The first two managements strategies are contingent on continued local economic development and transit service, respectively—both win-win solutions to the substantial benefit of local communities. Equitable use of regional roads requires specific technological solutions and strategic highway investments. Investments in roads are required to facilitate alternate routes and also provide routes to alternate, local destinations.

Arterial routes will continue to be important alternatives for regional travel and

Use of Technology Integrated Corridor Management

Figure 9
Greater Chicagoland Highway System and Interstate Eastbound Concept



Use of Technology

Integrated Corridor Management

should be managed in conjunction with I-90. Important routes to integrate with the operations of I-90 include US 20/Elgin-O'Hare Expressway, IL 72/Higgins Road, IL 58/Golf Road, IL 62/Algonquin Road, IL 59/Sutton Road, and IL 83/Busse Road. These routes are mapped in Figure 10.

Impacts on arterial roads bear close scrutiny by communities and regional agencies. However, not all impacts will be negative. By facilitating regional travel on alternative roads, the congestion reduction demonstration will relieve congestion on some roads with interchanges on Interstate 90. These roads, IL 59 for example, now have substantial congestion at least partly caused by excessive volumes seeking access to I-90.

Management Techniques and Integration

To divert interstate and regional travel demand to alternative expressway corridors, the following strategies will be employed:

- Variable message signs displaying, for example, congestion pricing and alternative route information upstream of route decision points. For example, such information is proposed for eastbound travel upstream of the I-90 interchanges with I-39, near Rockford; the I-290 (route to I-355) interchange near Schaumburg; and the I-294 interchange near Rosemont.
- Traveler information services to provide more detailed information at the same decision points.
- Dynamic trailblazers provided on alternative routes, e.g., I-39 and I-80.
- Pricing specifically encouraging alternative routes.

Arterial operations will be directly integrated with the Illinois Tollway's TIMS operations via the GCM Gateway Traveler Information System. Travel times, commuter parking availability, congestion prices, and non-recurring delay caused by incidents will be among the data to be provided. Such information will be provided prior to route decision points and en route. Communications will utilize existing fiber optic cable where available. Where fiber is unavailable, wireless communications will be utilized where feasible to reduce development costs.

Other corridor features proposed for deployment include, among other strategies, adaptive signal control, advanced signal systems, and enforcement technologies.

With this system to support congestion pricing, we will expand and integrate technology available to manage our transportation system. The national leadership by the Chicago region in financing and deploying intelligent transportation systems (ITS) has left a legacy of infrastructure well-suited for the congestion reduction demonstration.

Use of Technology Integrated Corridor Management

Figure 10
Northwest Integrated Corridor Concept - Illustrative Corridors and Decision Points



Expedited Project Completion

Fast-Track Implementation

By selecting a congestion pricing element that does not require legislative approval and by selecting a corridor with tidal, peak period movements, the congestion pricing element should be straightforward to implement.

However, we will need assistance with other federally-funded program elements, as these typically consume substantial amounts of time. As issues arise, a contact person will be appointed in Illinois to expedite the implementation process. It may be helpful to have a similar federal liaison as well to expedite all federally-funded program elements. It is very important to us that the transit improvements, arterial improvements, and technological innovations are ready when congestion pricing begins, so we will need federal cooperation to assure fast-track implementation.

The project will be accomplished in such a way that the Illinois Tollway does not receive federal funds.

Time Frame Considerations and Schedule

We recognize that USDOT is seeking urban areas to implement comprehensive congestion reduction strategies, including congestion pricing, within a very short time frame. Thus, congestion pricing is best implemented where toll collection technologies are in place. We intend to implement these elements as soon as possible, and within the time frame required by U.S.D.O.T.

As a national model of a fast-track implementation of technology and congestion pricing, the Illinois State Toll Highway Authority stands alone. A comprehensive program of congestion relief, "Open Roads for a Faster Future," was developed and approved by the ISTHA Board within 21 months of new gubernatorial leadership. New rates, including significant value pricing features, took effect in three months, on January 1, 2005. By November 1, 2006, within 22 months, all twenty main-line toll plazas were equipped with free-flow mainline toll collection ("open road tolling"). Fast-track implementation is possible.

Evaluation Strategy

Rates would be reviewed and adjusted every three months to reflect traffic conditions, consistent with any agreement to assure that the set prices "work" in reducing congestion. Adjustments might be necessary in the arterial and transit implementation program as well, so as to assure communities and partners that we are not simply pushing congestion from the Tollways to arterials. Continuous improvement will be sought.

Travelers Affected Daily

The number of travelers traveling on the segment of the Jane Addams Memorial Tollway proposed for congestion pricing is presented below in Table 7.

Table 7
Travelers Entering and Exiting Congestion-Priced Highway Segment Daily

Upstream Volume	Exiting Volume	Entering Volume	Down-stream Volume	W B	Location	E B	Upstream Volume	Exiting Volume	Entering Volume	Down-stream Volume
0	0	55820	55820		River Rd Toll Plaza		64740	64740	0	0
55820	13930	33950	75840		I-294		81760	38910	21890	64740
75840	0	6820	82660		Devon Ave/ Toll Plaza		81760	0	0	81760
82660	4500	0	78160		Lee Street		76610	0	5150	81760
78160	11420	0	66740		IL 83		65190	0	11420	76610
66740	7250	12100	71590		Arlington Heights Road		69370	11620	7440	65190
71590	25920	33240	78910		I-290/IL 53		81080	37460	25750	69370
78910	10460	0	68450		Roselle Rd		71980	0	9100	81080
68450	11240	0	57210		Barrington Rd		60150	0	11830	71980
57210	7460	9670	59420		IL 59		60770	9060	8440	60150
59420	5190	0	54230		Beverly Rd		55560	0	5210	60770
54230	3890	2460	52800		IL 25		54590	2680	3650	55560
52800	11530	1620	42890		IL 31		43760	1610	12440	54590
42890	42890	0	0		Elgin Toll Plaza		0	0	43760	43760
155680		155680		W B	TOTAL	E B	166080	166080		

Key: Blue-shaded boxes are existing toll control points that are proposed congestion toll control points; 370,150 transactions daily.

Green-shaded boxes are existing toll control points that are not proposed congestion toll control points; 52,840 transactions daily (mixed with I-294 traffic never on I-90)

Summary: 321,760 entering vehicles and 422,990 toll transactions daily.

Travelers Affected Daily (Continued)

The proposed pricing parameters in Table 2 are complex. Analysis of this plan will be challenging, and may require complex econometric evaluation to arrive at a recommended solution with detailed estimated impacts. Such analyses are not available now, so second-best estimates are necessary, and are provided below. More research is clearly needed.

All things being equal, a congestion pricing plan that raises trip costs (congestion tolls plus other costs) for four-hour peak periods by 10-20% might reduce those trips by three to six percent. This may be the “average” impact at locations with tidal-flow, peak period congestion, except for trips that also travel through the River Road Toll Plaza. There, a more substantial fee is proposed. Hypothesizing a River Road fee that raises the cost of a fifteen-mile trip by 50%, peak period trips at River Road might fall by 15% (at River Road, the “peak period” lasts nine hours).

Route choice, mode choice, destination choice, and balancing these choices for inbound and outbound trips will probably result in a composite number between the above estimates. Overall, a rough, first estimate is that toll transactions will fall by approximately 10,000-15,000 vehicles per day (5,000-7500 each direction), or about ten to fifteen percent. Most of this decline will be concentrated at the eastern terminus where congestion is greatest and where congestion fees are proposed to be highest. Some of these trips will be diverted around Chicago to alternate interstate highways, while some regional trips are likely to be diverted to the arterial system.

It is expected that a substantial number of users will be diverted to transit services, particularly for city-to-suburb commuting. Overall, 5,270 new transit trips (2635 people) are expected on new express transit services—over and above the 2,400 trips on the current limited services available. In addition, 3,250 new transit trips are expected to use the new and expanded arterial services parallel to I-90. These may also overlap somewhat with the expected 3,160 along the Milwaukee corridor link between the CTA Blue Line and Golf Road arterial bus service.

At the eastern end of the corridor, the substantial transit diversions hypothesized above are feasible. According to early results of the Illinois Tollway’s origin-destination survey, more than half of the trips going through the Devon Toll Plaza originate in Chicago, where transit connections are good. Furthermore, 10% of Devon Toll Plaza trips originate in the Chicago Central Area, with easy accessibility to the Blue Line/O’Hare transit corridor.

Still, some trips are likely to be diverted to area arterial highways, necessitating spot capacity improvements to supplement the proposed transit services.

Research, Planning and Experience to Date

The Chicago region has a long history of actively managing the regional transportation system to improve performance. In the 1960's, IDOT was the first agency to experiment with ramp metering. Recently, the region embraced Intelligent Transportation Systems and has experimented with value pricing.

Pricing experiments to date have focused on facilities where payments are required. The Chicago Transit Authority, Pace, and the Illinois Tollway have all implemented steep discounts (up to 50%) for payments using electronic fare technology. ISTHA's new toll structure was successful and resulted in high (80%) transponder use, which in turn allowed the desired move to open-road tolling at all ISTHA toll plazas. ISTHA is also a member of the multi-agency consortium that enables transferability of electronic tolling technology with the Chicago Skyway (I-90) and the Indiana Toll Road (I-80/90), as well as on any of the more than 20 U.S. tollroads where E-ZPass is accepted.

Also, ISTHA has experimented with congestion pricing for trucks. While this experiment revealed that truck volumes are not sensitive to small price changes, it demonstrated a willingness to experiment with congestion pricing. Aside from Partnership activities, the region is committed to further evaluation of value pricing, with federal financial assistance for the study. Lastly, the Chicago Metropolitan Agency for Planning (CMAP) is studying congestion pricing through its regional household travel inventory process. The travel inventory includes a stated preference survey now under way evaluating travelers' trade-off between price and time saved. Value pricing was evaluated and is recommended in the 2030 Regional Transportation Plan.

Our region also understands technology and information. We were a leader in implementing intelligent transportation systems through the Gary-Chicago-Milwaukee (GCM) ITS corridor. Technological leadership ranges from sophisticated signal systems operated by many agencies to the surveillance systems in place to monitor and manage traffic flow. For example, IDOT was an early leader not only in ramp metering but in placing detectors along its freeway system to monitor speeds and detect incidents. ISTHA followed suit with algorithms to determine segment speeds using transponder data. Both agencies and other agencies are supplementing this data with widespread video feeds and other monitoring in modern traffic management centers, all to be linked to the GCM Gateway Traveler Information System. The GCM Gateway Traveler Information System is the core of the regional ITS architecture. The GCM Corridor uses the GCM Gateway Traveler Information System as an integrated information system to provide data to agencies and the traveling public.

The Chicago region has a strong transit system. In 2006, there were over 600 million unlinked passenger trips on the transit system, ranking our region second in the nation.

Funding Support

Congestion pricing is only effective in reducing congestion only if alternative routes, times, destinations, and modes of travel are available to attract diverted trips. This demonstration is intended to demonstrate to the Chicago region that investments in alternatives to congested freeways, combined with strategic highway pricing, can bring a substantial benefit in congestion reduction.

This demonstration of highway pricing is thus feasible only with substantial federal financial assistance. Table 8 is a summary of the region's request for funds to implement this demonstration. Match will be provided primarily by state and regional funds, subject to negotiations.

Table 8
Financial Summary and Request for Federal Assistance

Project	Items	Total Cost (000's)	Federal Request (000's)
I-90 Express Bus Service	Stations, bus-related road and interchange improvements, station amenities	60,000	48,000
	Buses	10,800	8,640
Arterial Bus Services	Bus stop improvements, bus-related road improvements, miscellaneous and contingencies	35,000	28,000
	Buses	7,350	5,880
Feeder Routes	Buses and high-performance vans	4,400	3,520
Park and Ride Lots	Park and ride lots, access	10,000	8,000
I-90/I-190 Cumberland Flyover	New reinforced concrete structure, barrier wall, concrete pavement, appurtenances. <i>Note: Cost may be reduced if timely financing is obtained for the remainder of planned I-190 improvements.</i>	40,000	32,000
Arterial Capac- ity and Signal Improvements	Intersection channelization and capacity improvements; intersection signal improvements	70,000	56,000
I-90/I-190 Ac- tive Traffic Management	Variable overhead speed displays, signage, closed circuit television, power, communications	7,200	6,400
Integrated Corridor Man- agement	Arterial and freeway variable message signs, RTMS, CCTV, PTMS, power and communications, enhanced TMC capabilities, advance and real-time traveler information services	64,000	51,200
Total		308,750	247,640

Contact Information

Questions about this Congestion Reduction Demonstration submittal may be addressed as follows:

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The following key people helped prepare this submittal and related grant applications. Contact should be coordinated through Mr. Blankenhorn, above, but additional contact information is provided here for reference.

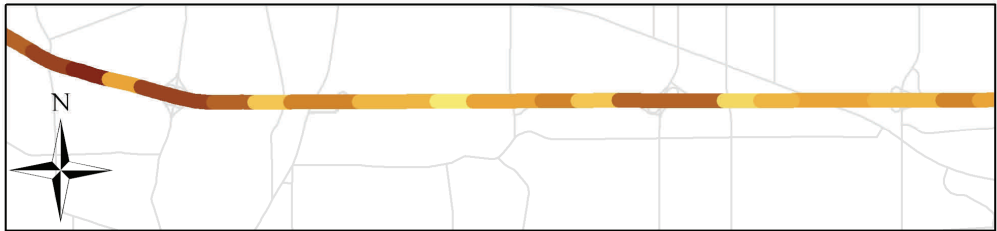
Congestion Reduction Demonstration: Key People

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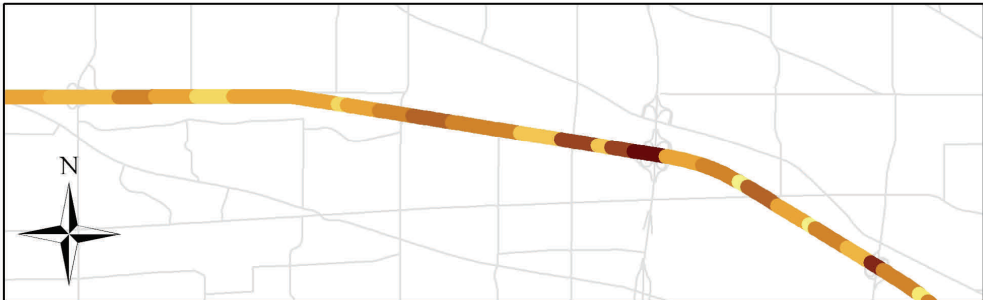
Appendix A

I-90 Crash Rates

Appendix A
Jane Addams Memorial Tollway Crashes per Mile
2005-2006



Elgin Toll Plaza to Barrington Road



Barrington Road to Arlington Heights Road



Arlington Heights Road to River Road Toll Plaza

Legend

2005-2006 Crashes per Mile

0.00 - 5.95	57.66 - 79.18
5.96 - 16.39	79.19 - 109.11
16.40 - 26.69	109.12 - 141.53
26.70 - 42.22	141.54 - 223.44
42.23 - 57.65	223.45 - 436.82
	436.83 - 750.60

I-90 Jane Addams Memorial Tollway Existing Toll Rates by Plaza

